

WHAT IS CLAIMED IS:

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1. A composite intraluminal device comprising:
an elongate radially expandable tubular stent having an interior luminal surface
and an opposed exterior surface extending along a longitudinal stent axis; and
a stent cover positioned about the stent and which is formed of unsintered
ePTFE which is expandable upon said radial expansion of said stent.
 2. A composite intraluminal device of claim 1 wherein said stent is radially
expandable from a first compressed state permitting intraluminal delivery to a second
expanded state permitting intraluminal deployment.
 3. A composite intraluminal device of claim 1 wherein said stent cover further
includes a longitudinal segment of said unsintered ePTFE generally aligned
longitudinally along said longitudinal stent axis, said longitudinal segment being
expandable in a transverse direction thereto upon said radial expansion of said stent.
 4. A composite intraluminal device of claim 3 wherein said longitudinal segment
is joined about said stent along a seam formed by opposed overlapped longitudinal
edges of said segment.
 5. A composite intraluminal device of claim 4 wherein said seam is formed by
compression of said overlapped edges.
 6. A composite intraluminal device of claim 4 wherein said seam is formed by
adhesively joining said overlapped edges.
 7. A composite intraluminal device of claim 3 wherein said longitudinal segment
is generally uniaxially oriented along the longitudinal direction.
 8. A composite intraluminal device of claim 1 wherein said stent covering includes
an elongate segment of said unsintered ePTFE having an original longitudinal expanse,

said segment being expanded in a transverse direction, so as to reduce said original longitudinal expanse, said segment being positioned generally transverse to said longitudinal stent axis, and being expandable longitudinally upon said radial expansion of said stent to return said expanded segment to said original longitudinal expanse to thereby control said radial expansion of said stent.

93. A composite intraluminal device of claim 8 wherein said elongate segment is generally uniaxially oriented along said original longitudinal expanse.

a 4 10. A composite intraluminal device of claim 8 wherein said segment is joined about said stent along a seam formed by opposed overlapped transverse ends of said segment.

Sub 93 11. A method of forming an intraluminal device comprising the steps of:
providing an elongate radial expandable tubular stent;
forming a stent cover of unsintered ePTFE, said stent cover being expandable in a first direction; and
applying said stent cover about said stent, with said first direction extending transverse to said elongate stent.

b 12. A method in accordance with claim 11 wherein said applying step includes wrapping said cover exteriorly about said stent.

7 13. A method in accordance with claim 12 wherein said wrapping step further includes:

a overlapping opposed longitudinal edges of said stent cover.

8 14. A method in accordance with claim 13 further including the step of:
securing said overlapped longitudinal ends of said stent cover together.

9 15.

A method of claim ~~14~~⁸ wherein said securing step includes:
adhesively securing said overlapped ~~edges~~^{longitudinal ends}.

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A method in accordance with claim ~~14~~⁸ wherein said securing step includes:
compressively securing said overlapped ~~edges~~^{longitudinal ends}.

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17. A method in accordance with claim ~~12~~ wherein said forming step further includes:

forming said stent cover from a longitudinal segment of said unsintered ePTFE.

18. A method in accordance with claim ~~17~~ wherein said wrapping step further includes:

wrapping said longitudinal segment about said stent with said elongate stent being generally longitudinally aligned with said longitudinal segment.

19. A method in accordance with claim ~~12~~ wherein forming step includes:
forming said stent cover from a segment of ePTFE having a first longitudinal
expanse and a transverse expanse;

expanding said segment along said transverse expanse to provide a second
transverse expanse greater than said first transverse expanse and a second longitudinal
expanse less than said first longitudinal expanse.

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A method in accordance with claim ~~19~~^{12b} wherein said wrapping step includes:
wrapping said expanded segment about said stent with said second longitudinal
expanse extending generally transverse to said elongate stent.

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An intraluminal stent assembly comprising:
a radially expandable stent having a longitudinal stent axis;
a stent cover positioned about said stent and being formed of a generally
uniaxially oriented polymer, said stent cover being oriented in a first direction and
expanded in a second direction transverse to said first so as to decrease the length of

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said stent cover from its original length, said longitudinal axis of said stent being aligned with said second direction, so that said stent cover is expandable in said first direction to its original length upon said radial expansion of said stent to control said radial expanse of said stent.

¹²
~~13~~₂₂: A stent assembly of claim ~~21~~ wherein said expanded stent cover is expandable in its first direction up to its original length.

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~~14~~₂₃: A stent assembly of claim ~~22~~ wherein said uniaxially oriented polymer includes unsintered ePTFE.